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Abstract

"Measuring Social Vulnerability of Chinese Coastal Counties to Natural Hazards"

In China, more than 40% of the nation's population lives in coastal areas, where they contribute up to 60% of national GDP. Dense population and great wealth in coastal zones make these areas prone to grave consequences from natural hazards. It is important to have knowledge of disaster risk and vulnerability in coastal areas in order to protect people's lives and property. Social vulnerability is those characteristics that influence the capacity of the community to prepare for, respond to, and recover from hazards and disasters. This research explores the social vulnerability of 238 coastal counties in China to natural hazards, using the place-based Social Vulnerability Index (SoVI®) methodology. The results indicate three patterns of the distribution of social vulnerability along the Chinese coast: (1) the north and south end areas are more socially vulnerable than southeastern areas; (2) counties and county-level cities are more vulnerable than highly developed city districts; and (3) the vulnerability of each county is driven by different factors even though they have similar SoVI scores. By comparing the change in spatial distribution of social vulnerability between 2000 and 2010, the following factors emerge as driving factors of social vulnerability in Chinese coastal counties: urbanization, education, social dependency, employment, poverty, age, gender, minority and poor housing quality. This study also explains how to draw lessons from the measurement results of social vulnerability from national and regional perspective in detail. Based on the review of Chinese practice under the Hyogo Framework for Action (HFA, 2005-2015), this thesis identifies the achievements, inadequacies, opportunities and challenges of disaster risk reduction in China, and proposes five major recommendations to move forward for a resilient society: (1) to start formulating the law and regulations for disaster risk reduction and working mechanisms; (2) to start risk identification and assessment at all levels and enhance related researches; to enhance public awareness and training; (3) to promote building resiliency of physical, human, social, institutional, technical, economic, environmental and ecological systems; (4) to establish the systematic guidance of development of volunteers and NGOs; and (5) to enhance international and domestic cooperation, at both governmental and academic levels.